Management of anorectal malformations in resource-limited settings: a systematic review

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Background

Anorectal malformations (ARMs) are common congenital anomalies treated in various settings with or without intestinal diversion. While many ARM patients in high-income countries are treated with a one- or two-staged approach, the effectiveness of these approaches in low- and lower-middle-income countries (LMICs) is not clear.

Our objective was to systematically review the literature on the management and outcomes of anorectal malformations in LMICs.

Methods

Several databases (Africa-Wide Information, Cochrane, Embase, Global Health, Global Index Medicus, Medline, Web of Science) were interrogated up to May 27, 2020, resulting in 1501 studies. After duplicate removal, 1269 articles were included for screening. Two independent authors reviewed, and selected abstracts based on preset criteria. Data from included studies were extracted, analyzed, and summarized. Risk of bias was assessed using the Methodological Index for Non-Randomized Studies (MINORS).

Results

Sixty-five articles were included for full-text analysis. After full-text analysis of 65 articles, forty-two articles were included for analysis. Final included studies originated from 11 different LMICs. The most common high, intermediate, and low ARM types were rectovesical fistula (n=72), rectovestibular fistula (n=693), and anovestibular fistula (n=207) respectively. Eighteen studies reported single-stage correction, 10 reported multi-staged correction, and 15 studies compared the previous two. Most commonly performed procedures were anterior and posterior sagittal anorectoplasty. Most studies reported positive outcomes following single-stage correction of ARMs.

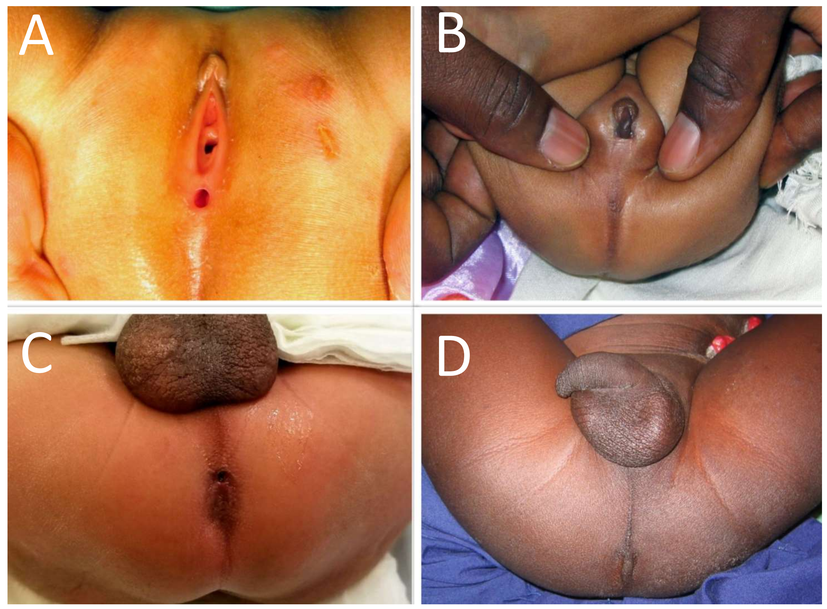

Figure 1: Common anorectal malformations
A. Female vestibular fistula B. Female cloaca C. Male perineal fistula D. Male rectourethral fistula

Results

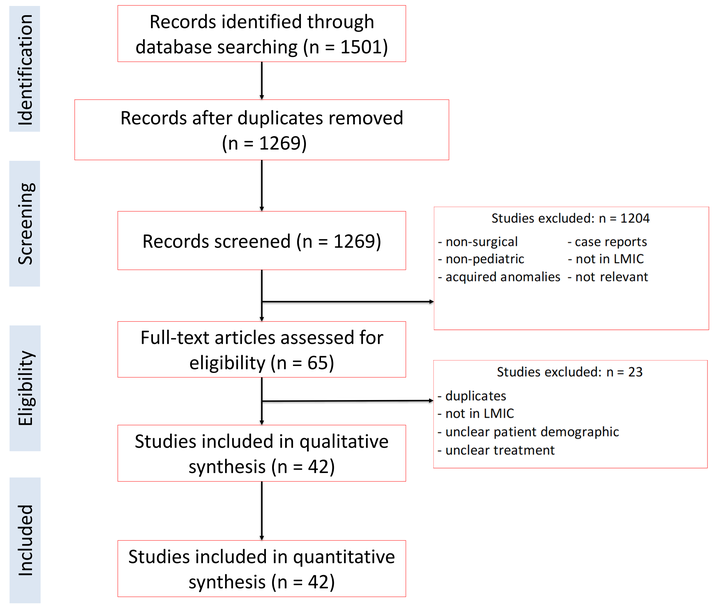

Figure 2. Literature review PRISMA flowchart

Literature Review

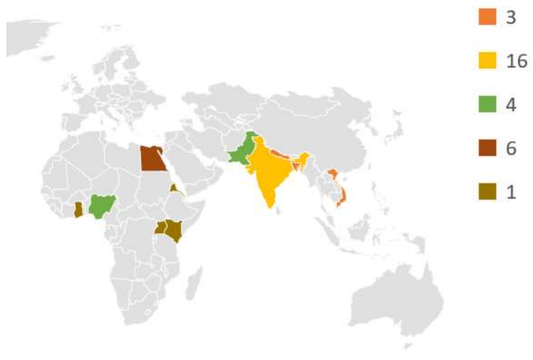

Figure 3: Number of included articles per country of origin

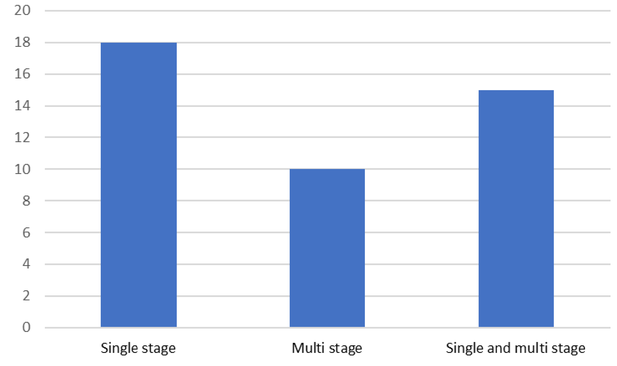

Figure 4. Surgical regimen per article

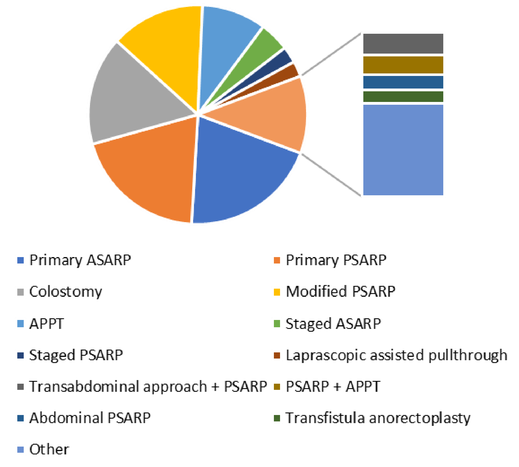

Figure 5. Reported surgical procedures

Conclusion

The literature supports the effectiveness of single-stage correction for ARMs in LMICs. Further and multicenter studies are needed for single-stage repair for high ARMs.

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